[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2015-2983; Directorate Identifier 2015-NE-20-AD]

RIN 2120-AA64

Airworthiness Directives; CFM International S.A. Turbofan Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: We propose to adopt a new airworthiness directive (AD) for certain CFM International S.A. (CFM) CFM56-5B series turbofan engines. This proposed AD was prompted by a corrected lifing analysis by the engine manufacturer that shows the need to identify an initial and repetitive inspection threshold for certain part number (P/N) turbine rear frames (TRFs). This proposed AD would require initial and repetitive inspections of certain P/N TRFs on the low-pressure turbine (LPT) frame assembly. We are proposing this AD to prevent failure of the TRF on the LPT frame assembly, which could lead to engine separation, damage to the engine, and damage to the airplane.

DATES: We must receive comments on this proposed AD by [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE Federal Register].

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

• Federal eRulemaking Portal: Go to http://www.regulations.gov. Follow the instructions for submitting comments.

• Fax: 202-493-2251.

• Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

• Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this proposed AD, contact CFM International Inc., Aviation Operations Center, 1 Neumann Way, M/D Room 285, Cincinnati, OH 45125; phone: 877-432-3272; fax: 877-432-3329; email: aviation.fleetsupport@ge.com. You may view this service information at the FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7125.

Examining the AD Docket

You may examine the AD docket on the Internet at http://www.regulations.gov by searching for and locating Docket No. FAA-2015-2983; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Office (phone: 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: Kyle Gustafson, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; phone: 781-238-7183; fax: 781-238-7199; email: kyle.gustafson@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

We invite you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under the ADDRESSES section. Include "Docket No. FAA-2015-2983; Directorate Identifier 2015-NE-20-AD" at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this proposed AD. We will consider all comments received by the closing date and may amend this proposed AD because of those comments.

We will post all comments we receive, without change, to http://www.regulations.gov, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this proposed AD.

Discussion

We were informed by CFM that it has corrected its lifing analysis for the TRF, P/N 338-102-907-0 and P/N 338-102-908-0, on the LPT frame assembly installed on CFM56-5B turbofan engines. This corrected lifing analysis shows the need for initial and repetitive inspections of certain P/N TRFs to manage low-cycle fatigue cracks. This condition, if not corrected, could result in failure of the TRF on the LPT frame assembly, which could lead to engine separation, damage to the engine, and damage to the airplane.

The initial and repetitive inspection intervals differ depending on whether CFM Service Bulletin (SB) No. CFM56-5B S/B 72-0308, Revision 5, dated October 12, 2007, has been applied. We are proposing to allow engines with TRFs that have exceeded the initial inspection threshold a continued in-service allowance of 150 cycles to provide sufficient time to perform the initial inspection. The proposed repetitive inspection intervals are based on the size of the crack, if any, found during the inspection.

Relevant Service Information under 1 CFR Part 51

We reviewed CFM SB No. CFM56-5B S/B 72-0850, dated December 19, 2012, and CFM SB No. CFM56-5B S/B 72-0308, Revision 5, dated October 12, 2007. CFM SB No. CFM56-5B S/B 72-0850 describes procedures for inspecting the TRF. CFM SB No. CFM56-5B S/B 72-0308 identifies the engines to which this proposed AD applies. This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section of this document.

FAA's Determination

We are proposing this AD because we evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

Proposed AD Requirements

This proposed AD would require initial and repetitive inspections of the TRF on the LPT frame assembly.

Costs of Compliance

We estimate that this proposed AD would affect about 94 engines installed on airplanes of U.S. registry. We also estimate that it would take about 3 hours per engine to do the inspection. The average labor rate is $85 per hour. Based on these figures, we estimate the cost of this proposed AD on U.S. operators to be $23,970.

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

We determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

(1) Is not a "significant regulatory action" under Executive Order 12866,

(2) Is not a "significant rule" under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),

(3) Will not affect intrastate aviation in Alaska to the extent that it justifies making a regulatory distinction, and

(4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

CFM International S.A.: Docket No. FAA-2015-2983; Directorate Identifier 2015-NE-20-AD.

(a) Comments Due Date

We must receive comments by [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE Federal Register].

(b) Affected ADs

None.

(c) Applicability

This AD applies to CFM International S.A. (CFM) CFM56-5B engines with turbine rear frame (TRF), part number (P/N) 338-102-907-0 or P/N 338-102-908-0, installed.

(d) Unsafe Condition

This AD was prompted by a corrected lifing analysis by the engine manufacturer that shows the need for an initial and repetitive inspection of certain P/N TRFs on the low-pressure turbine (LPT) frame assembly. We are issuing this AD to prevent failure of the TRF on the LPT frame assembly, which could lead to engine separation, damage to the engine, and damage to the airplane.

(e) Compliance

Comply with this AD within the compliance times specified, unless already done.

(1) For Engines that have Applied CFM Service Bulletin (SB) No. CFM56-5B S/B

72-0308:

(i) Prior to accumulating 25,000 cycles since new (CSN) on the TRF of the LPT frame assembly or within 150 cycles after the effective date of this AD, whichever occurs later, perform an initial eddy current inspection (ECI) or a fluorescent penetrant inspection (FPI) of the TRF mount struts on the LPT assembly.

(ii) For engines with unknown CSN on the TRF of the LPT frame assembly, perform the initial inspection required by this AD within 150 cycles-in-service after the effective date of this AD.

(iii) Use paragraph 3.B. in the Accomplishment Instructions of CFM SB No. CFM56-5B S/B 72-0850, dated December 19, 2012, to do the ECI and paragraph 3.C. in the Accomplishment Instructions of CFM SB No. CFM56-5B S/B 72-0850, to do the FPI. Do not include TRF mount strut crack lengths towards the cumulative crack length after the cracks are repaired.

(iv) If no cracks are found on any of the three TRF mount struts, or the cumulative length of all cracks at any TRF mount strut location is less than 0.20 inches, repeat the inspection within 1,670 cycles since last inspection (CSLI).

(v) If the cumulative length of cracks at any TRF mount strut location is greater than or equal to 0.20 inches, but less than 0.25 inches, repeat the inspection within 280 CSLI.

(vi) If the cumulative length of cracks at any TRF mount strut location is 0.25 inches or greater, replace the TRF with a part eligible for installation before further flight.

(2) For Engines that have Not Applied CFM SB No. CFM56-5B S/B 72-0308:

(i) Prior to accumulating 32,000 CSN on the TRF of the LPT frame assembly or within 150 cycles after the effective date of this AD, whichever occurs later, perform an initial ECI or FPI of the TRF mount struts on the LPT frame assembly.

(ii) For engines with unknown CSN on the TRF of the LPT frame assembly, perform the initial inspection required by this AD within 150 cycles-in-service after the effective date of this AD.

(iii) Use paragraph 3.B. in the Accomplishment Instructions of CFM SB No. CFM56-5B S/B 72-0850, dated December 19, 2012, to do the ECI and paragraph 3.C. in the Accomplishment Instructions of CFM SB No. CFM56-5B S/B 72-0850, to do the FPI. Do not include TRF mount strut crack lengths towards the cumulative crack length after the cracks are repaired.

(iv) If no cracks are found on any of the three TRF mount struts, or the cumulative length of cracks at any TRF mount strut location is less than 0.20 inches, repeat the inspection within 2,500 CSLI.

(v) If the cumulative length of cracks at any TRF mount strut location is greater than or equal to 0.20 inches and less than 0.25 inches, repeat the inspection within 370 CSLI.

(vi) If the cumulative length of cracks at any TRF mount strut location is 0.25 inches or greater, replace the TRF with a part eligible for installation before further flight.

(f) Alternative Methods of Compliance (AMOCs)

The Manager, Engine Certification Office, FAA, may approve AMOCs for this AD. Use the procedures found in 14 CFR 39.19 to make your request. You may email your request to: ANE-AD-AMOC@faa.gov.

(g) Related Information

(1) For more information about this AD, contact Kyle Gustafson, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; phone: 781-238-7183; fax: 781-238-7199; email: kyle.gustafson@faa.gov.

(2) CFM SB No. CFM56-5B S/B 72-0850, dated December 19, 2012, and CFM SB No. CFM56-5B S/B 72-0308, Revision 5, dated October 12, 2007, can be obtained from CFM using the contact information in paragraph (g)(3) of this proposed AD.

(3) For service information identified in this AD, contact CFM International Inc., Aviation Operations Center, 1 Neumann Way, M/D Room 285, Cincinnati, OH 45125; phone: 877-432-3272; fax: 877-432-3329; email: aviation.fleetsupport@ge.com.

(4) You may view this service information at the FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7125.

Issued in Burlington, Massachusetts, on September 24, 2015.

Colleen M. D'Allesandro,
Directorate Manager, Engine & Propeller Directorate,
Aircraft Certification Service.
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